CLAIMS

What is claimed is:

1   1. A method of receiving voice comprising:

2   receiving at least an initial portion of speech packets at a transmission rate

3   exceeding a speech encoding rate;

4   decoding the speech packets at a rate exceeding the speech encoding rate;

5   and

6   processing the decoded speech packets to generate speech signals

7   representative of the initial portion of speech packets, the speech signals having a

8   shortened time period which at least in part compensates for a channel

9   reallocation delay.

1   2. The method of claim 1 wherein processing includes processing the

2   decoded speech packets at a processing rate which initially exceeds the speech

3   encoding rate, and decreasing the processing rate gradually to approximately the

4   speech encoding rate.

1   3. The method of claim 1 further comprising buffering the decoded speech

2   packets in a buffer, and wherein processing includes retrieving the decoded

3   speech packets from the buffer at a varying rate which initially exceeds the speech

4   encoding rate, the varying rate gradually being decreased to approximately the

5   speech encoding rate.

1   4. The method of claim 1 wherein processing includes processing the

2   decoded speech packets with a dynamic time warping process to generate speech

3   signals representative of the initial portion of speech packets, the speech signals

4   spanning a shorter time duration than the initial portion of speech packets and

5   having substantially preserved pitch attributes of the initial portion of speech

6   packets.

1   5. The method of claim 1 wherein the decoding is performed at

2   approximately the transmission rate.

1   6. The method of claim 1 wherein the initial portion of speech packets is

2 buffered for the channel reallocation delay until a channel through an access

3 medium is granted, and wherein the initial portion of speech packets is sent in

4 response to the channel being granted, the channel having a channel bandwidth

5 exceeding the speech encoding rate.

1   7. The method of claim 6 wherein the channel bandwidth is approximately

2 proportional to an inverse of the channel reallocation delay.

1   8. The method of claim 1 wherein the speech packets are received through

2 an access medium that includes at least one of a wireless communication medium,

3 a fiber optical medium, and a conductive wired medium.

1   9. The method of claim 8 wherein when the access medium is a fiber

2 optical medium, at least one of wavelength-division multiplexing, frequency-

3 division multiplexing and time-division multiplexing is employed.

1   10. The method of claim 8 wherein when the access medium is a wireless

2 communication medium, at least one of spread-spectrum multiplexing, frequency-

3 division multiplexing and time-division multiplexing is employed.

1   11. A communication device comprising:

2   a voice decoder to decode speech packets, at least an initial portion of the

3 speech packets being delayed by a channel reallocation delay;

4   a buffer to store the decoded speech packets; and

5   a processing element to process the decoded speech packets at a rate

6 exceeding a speech encoding rate and to generate speech signals representative of

7 the initial portion of the speech packets, the speech signals having a shortened

8 time period which compensates at least in part for the channel reallocation delay.

1   12. The communication device of claim 11 wherein the communication

2 device receives the initial portion of the speech packets at a rate exceeding the

3   speech encoding rate, and the voice decoder decodes the initial portion of the

4   speech packets at a rate exceeding the speech encoding rate.

1   13. The communication device of claim 11 wherein the initial portion of

2   the speech packets are buffered for a time approximating the channel reallocation

3   delay prior to transmission through an access medium, wherein the channel

4   reallocation delay includes time to grant a channel through the access medium.

1   14. The communication device of claim 11 wherein the processing

2   element processes the decoded speech packets at a processing rate which initially

3   exceeds the speech encoding rate and which is gradually decreased to

4   approximately the speech encoding rate.

1   15. The communication device of claim 11 wherein the processing

2   element retrieves the decoded speech packets from the buffer at a rate which

3   initially exceeds the speech encoding rate and which is gradually decreased to

4   approximately the speech encoding rate.

1   16. The communication device of claim 11 wherein processing element

2   processes the decoded speech packets with a dynamic time warping process to

3   generate speech signals representative of the initial portion of the speech packets,

4   the speech signals spanning a shorter time duration than the initial portion of the

5   speech packets and having substantially preserved pitch attributes of the initial

6   portion of the speech packets.

1   17. The communication device of claim 11 wherein the communication

2   device receives the initial portion of the speech packets at a transmission rate and

3   the voice decoder performs the decoding at approximately the transmission rate.

1   18. The communication device of claim 11 wherein the speech packets are

2   received through a channel granted through an access medium, the access channel

3   having a bandwidth exceeding the speech encoding rate.

1   19. The communication device of claim 18 wherein the bandwidth of the

2 access channel is approximately proportional to an inverse of the channel

3 reallocation delay.

1   20. The communication device of claim 11 wherein the speech packets are

2 received through an access medium that includes at least one of a wireless

3 communication medium, a fiber optical medium, and a conductive wired medium.

1   21. The communication device of claim 20 wherein when the access

2 medium is a fiber optical medium, the communication device includes a

3 demultiplexer to demultiplex received speech packets that are at least one of

4 wavelength multiplexed, frequency division multiplexed and time division

5 multiplexed.

1   22. The communication device of claim 20 wherein when the access

2 medium is a wireless communication medium, the communication device is a

3 wireless communication device having a receiver to receive the speech packets

4 that are at least one of spread spectrum multiplexed, frequency division

5 multiplexed and time division multiplexed.

1   23. A system communicating voice comprising:

2   a voice decoder to decode speech packets, at least an initial portion of the

3 speech packets being delayed by a channel reallocation delay;

4   a buffer to store the decoded speech packets; and

5   a processing element to process the decoded speech packets at a rate

6 exceeding a speech encoding rate to generate speech signals representative of at

7 least the initial portion of the speech packets, the speech signals having a

8 shortened time period which compensates for the channel reallocation delay.

1   24. The system of claim 23 further comprising:

2   a voice encoder to encode outbound speech packets; and

3   an output buffer to store outbound speech packets until a channel is

4 reallocated for the transmission of the outbound speech packets.

1   25. The system of claim 24 further comprising a media access controller to

2 receive inbound speech packets from an access medium, to transfer outbound

3 speech packets to the access medium and to request allocation of an access

4 channel for transmission of the outbound speech packets through the access

5 medium.

1   26. The system of claim 25 wherein the voice encoder encodes the

2 outbound speech packets at the speech encoding rate and wherein the media

3 access controller sends the outbound speech packets through the access medium at

4 a rate exceeding the speech encoding rate, and wherein the processing element

5 processes the decoded inbound speech packets at a rate which initially exceeds the

6 speech encoding rate and which is gradually decreased to approximately the

7 speech encoding rate.

1   27. The system of claim 26 wherein processing element processes the

2 decoded inbound speech packets with a dynamic time warping process to generate

3 speech signals representative of the initial portion of the inbound speech packets,

4 the speech signals spanning a shorter time duration than the initial portion of the

5 inbound speech packets and having substantially preserved pitch attributes of the

6 initial portion of the inbound speech packets.

1   28. The system of claim 27 wherein the voice decoder, buffer, processing

2 element, voice encoder, output buffer and media access controller are part of a

3 two-way wireless communication device.